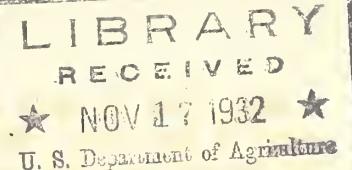


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## OCTOBER WEATHER AND CROPS

A radio talk by J. B. Kinco, Weather Bureau, delivered in the Department of Agriculture period of the National Farm and Home Hour, November 2, 1932, by a network of 48 associate NBC radio stations.

How do you do Folks'. Suppose we begin our weather chat today about frost. As the seasons come and go, there are two outstanding weather features each year that are of general interest to everybody, regardless of occupation or calling, and they are of especially interest to those engaged in agriculture. These are the approach of winter and the coming of spring. At the end of the growing season there comes an event, featuring the weather of a single day, if you please, which in some years is of very great importance and in others of no special significance. This is what is known in weather parlance as the first killing frost in the fall, that brings to an end the growing season of that particular year. The Weather Bureau observes and records for future reference and use three grades of frost, light, heavy, and killing. Frost is recorded as killing when it is severe enough to destroy staple crops that may still be green or growing at the particular time in that locality.

We are often asked the question as to what temperature will cause the formation of frost? The answer is 32° F. Frost is only frozen dew and obviously dew cannot freeze unless the temperature goes at least as low as the freezing point of water. Frequently, however, our thermometers show a higher temperature than 32° when we have frost, but the thermometer is one place and the frost is another. That is, if our thermometer were exposed on the grass or other object on which the frost forms it would tell a different story.

Now, the first occurrence of killing frost in fall is very irregular from year to year. The time and the state of crop development at that time determine the amount of damage, if any, that results. Sometimes when crops are late and frost comes early, damage is enormous. For example, it is estimated that frost and freezing caused a loss in the 1917 corn crop of more than 600 million bushels. In other years such as the present, there is very little damage because this year the frost came comparatively late and crops matured early. As an indication of the wide variation in the occurrence of the first fall frost we may take the record at Topeka, Kans., as an example. Here the average date of the first killing frost is October 19, but it has occurred as early as September 28, in 1888, and as late as November 8, in 1900, a spread of some six weeks.

The Weather Bureau keeps records of this kind at some 5000 different places in all parts of the United States, which form a part of its general weather service. While we are talking about such things it might interest you to know that records of temperature, rainfall, cloudiness, thunderstorms, frost, and the like, are made every day in the year at nearly 5000 official Weather Bureau cooperative stations in the United States, from Maine to California, and from Washington to Florida, by patriotic citizens who do the work for the sheer love of it, without receiving a dime for this service. At many places official records are available for fifty years or more without a single day's break, which have not cost our Government one cent for the work involved. Think of it, today, some 5000 people in all parts of the country will stop their regular work and give to their government

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enough time to make and record these observations, and they do this faithfully, year in and year out. The only cost to the Government is for the instruments and paper on which to record the observations.

Now, what about October weather? We nearly forgot that this is what we were supposed to talk about today. Well, we have said already that it was very satisfactory so far as temperatures and frosts were concerned. Temperatures averaged near normal in most sections of the country, and no unusually cold weather occurred. Frost did not extend as far south as in an average year. With regard to moisture, at the beginning of October there were several important sections of the country suffering from severe and prolonged drought. These were, principally, the Atlantic States from Florida to New York, the Pacific Northwest and Western Great Plains. Soon after the beginning of the month heavy rains set in over the dry eastern area and since then there has been plenty of moisture. With three successive weeks of heavy rains, and totals for October more than twice the normal nearly everywhere from Georgia and Mississippi northward to New England, the drought has been relieved entirely, and the agriculture outlook markedly improved. Fall pastures and grain, especially, have made wonderful response, and, in the southern half of the area, late vegetable crops have taken on new life; only parts of Florida still need rain. Moreover, October rainfall was much above normal rather generally east of the Mississippi River. Also in the dry northwestern area, where a month ago wheat was being sown in beds of dust, generous rains have occurred and fall grains are germinating and growing nicely, while pastures have improved. The Western Plains, notably from western Oklahoma northward to western Nebraska, remain much too dry, especially for wheat. Farm work made good advance during October and all seasonal operations are well up. In general the month's weather was decidedly favorable, except in the Western Winter Wheat belt, where moisture is still badly needed.